

COUES (S.F.)

POSSIBILITIES

OF

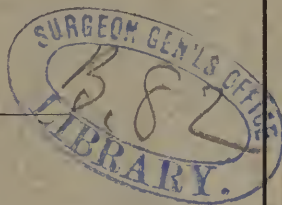
ORGANISM.

*Stat nominis pro umbra.*

AN ADDRESS

BY

S. F. COUES, M. D.



MOHUN BROTHERS,  
WASHINGTON, D. C.  
1878.







# Possibilities of Organism.

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*“ The soul’s dark cottage, battered and decayed,  
Lets in new light through chinks that time has made.”*

## *POSSIBILITIES OF ORGANISM.*

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The question of the continuance of individual existence beyond what we call death, is one of deepest significance. There are those blessed by an inborn faith, or a belief that has grown into their being, so absolute that doubt has never disturbed the serenity of their trust. In deference to such, as well as to its sublime import, this subject should be approached with seriousness, with reverence; though with faith pure and simple, with revelation, tradition or creed, the present inquiry has no concern.

Is there reason to believe, that a rational solution of this problem will ever be arrived at, that experimental research will attain results supplying the data by means of which a demonstration may be reached, and that the reality of another phase of continued individual existence may become an accepted deduction, an acknowledged fact of science?

The only course of investigation that can lead to a practical result, must be directed through the human organism, must be an attempt to discern its essential nature, to disclose its remote possibilities. If there be anything in it destined to survive the visible outward body, anything capable of independent individual existence, it must have

an embodiment of personality, a form of relation essential to self-preservation, to self-assertion. It is my hope to lead you to a conception of the probability of the existence of such an interior organism, and of the possibility of its continuance beyond the life of the perishing outward form as the environment of a living being still, only less material, less substantial than an investiture which has been cast off. And thus, from the stand-point of biology, I hope to illustrate a fundamental truth which is denied by some, and not thoroughly realized by many who accept it as a revelation merely.

In no branch of natural science has more thorough work been done, in none have more satisfactory results been attained, than in the departments of anatomy and physiology. By the closest scrutiny of keenest perceptions aided by every appliance of art, inquiry has been pushed seemingly to its ultimate limit. Is there aught in this body, this habitation of ours, the knife of the anatomist has not reached, the touch of the histologist has not unravelled, the microscope and re-agent have not revealed? Is there still to be solved a problem of deeper significance than any yet mastered, still to be answered a question of more vital interest than any to which response has yet been elicited? Can deduction, from data its structure and functions afford, bring us one step nearer to an appreciation of the mystery of mysteries that underlies this exquisite mechanism?

To abandon in this discussion the established method of inductive reasoning to indulge in vague imaginings, is



not my purpose. If broad generalizations, bold speculations be advanced into an unexplored field, they must be followed, like the reconnoissance of an engineer, by the measuring rod of a surveyor, to be verified or set aside. It is the retarding conservatism of science, its steady opposition to erratic and irregular movement, that have gained its assured triumphs. Systematically progressing over an ever increasing area, it gathers in the fruits of eccentric genius, while it dispels the chaff of morbid dreaming. Its boldest pioneers, however much they may chafe under restraint or suffer from present neglect, will in the end receive their reward, the recognition of truth established.

For purposes of investigation and demonstration the body has been divided and subdivided, till unity of design has well nigh been lost sight of in seeming complexity of structure. These divisions and subdivisions into distinct circumscribed parts are rather artificial than natural. In organic mechanism abrupt transitions, lines of demarcation, do not occur; but on the contrary continuity, gradual conversion of tissues, is everywhere found. These specimens may help you to an appreciation of the idea. Bones are composed of earthy and animal matter in varying proportions. Examine these two: in contour and size they are identical, yet from one its animal, from the other its earthy, constituent has been removed; the two in fact represent a single bone, the one being absolutely the complement of the other. How closely united, how intimately blended, were these two parts of a whole when they lived

and moved together. And no less striking is the relation of bone *in situ* to other tissues; the interior animal substance is continuous with the superficial investment, the periosteum, and this through aponeurosis with tendons; and they, through connective tissue, are brought into closest apposition to each minute fibre of encompassing muscle.

In the study of organisms the analytic process has been so commonly employed, the synthetic method so rarely adopted, that the unity of these seemingly complex structures, the exquisite blending of their mutually dependent divisions, has been inadequately presented. As a whole the animal economy is an apparatus of relation between an interior something and its exterior surroundings. Except in a very limited sense, it is not comparable to a machine made of distinct superimposed pieces; its reciprocally related parts are links in a continuous chain, one end of which can be grasped, the other by ascending series approaching the unknown.

Look at this human skeleton: it is the frame-work of what was once an edifice of surpassing beauty. How hideous it is, in its isolation, as meaningless as its empty sockets are without expression, its dangling limbs without purpose! With the general function of the osseous system, all are familiar; and the special adaptation of bones in relation to each other, to movement, is sufficiently obvious. They are designed to be moved one upon another, and their necessary association with something to act upon

them, is clearly to be inferred from their structure and arrangement. In other words, from data the bones afford, the existence of muscles would be a legitimate induction.

From bone and the intermediate connective tissue muscle differs widely; more highly organized, it is more abundantly nourished, its interstitial activity is far greater, its waste and repair are vastly more rapid. The distinguishing characteristic of its substance is mobility, contractility as a mass made up of contractile fibres. Higher in the scale of organism though it be, the muscular apparatus by itself, cut off from its connections, is as meaningless, as inert as the very earth of the bones to which it transmits motion.

As the existence of the muscular system could be inferred from the mechanism and functions of the osseous, so can the necessity for another, the nervous, be deduced from the constitution and structure of muscles; and accordingly, in closest proximity with every contractile fibre, are found ramifications of that other system.

The substance of the cerebro-spinal mass, of its prolongations and appendages, differs as materially from muscle, as does the latter from bone. Still more highly organized, more redundant in life, more active in motion, subject to still more rapid changes of material, this system brings us a step nearer to the source of motive power, but not to its origin. From the composition of this more sublimated form of matter, I infer the presence of a something be-

yond; matter still, but so tenuous, so subtle, that it has baffled scrutiny and escaped detection.

Here for the first time I raise a mooted question, touch upon disputed ground. Nerve centres of the cerebro-spinal axis have been viewed as an ultimate, as the end of our chain, as originators, as creators which in their decomposition, their molecular death, give birth to thought, to volition, to life. Here I can only define a position, the maintenance of which I must defer. Decomposition of matter, inorganic or organic, is not creative; it cannot yield that which did not enter into its composition; by its disintegration, its combustion, what was latent in its cohesion is set free, is transferred and nothing more; its waste is a measure of force transmitted, of force applied, but in no sense of creative power.

As muscle transmits motion to bone which it encompasses, as nerve conveys to muscle the contractile impulse and power; so nerve tissue, I infer, is held in the embrace of, and is acted upon through a material intervention still more sublimated. Thus is the domain of matter extended beyond the visible, filling with something cognizable the place of an abstraction, with something real the place of a shadow.

The wonderful rapidity of waste and repair, in the delicate tissue we have under consideration, almost passes belief. In this respect its relation to the more solid portions of the organism is as minutes and hours to months and years. I am at a loss how to convey any just concep-

tion of what we know to be true of nerve life. In its highest activity the processes of composition and decomposition are attended by intense motion; the nascence, maturity, disruption, decay of its atoms, succeed each other with incredible rapidity. It is in this vortex of movement, among particles of matter tenuous in substance but redundant in force, presenting every conceivable degree of sublimation, that the '*point d'appui*' is to be found. Here it is that the nervous system merges into that other, from which it derives its form, its movement, its life. Matter it is—matter approaching, though yet far distant from, a minimum of substance, a maximum of force.

The simple obvious relation between the three chief structural divisions of the human body, I have taken as a broad path which leads up to the presentation of a view it is my desire to convey. From technicalities I have abstained as far as practicable, and unnecessary reference to authority I studiously avoid, preferring to present in original form at least, a train of thought which is doubtless, as are all our thoughts, largely influenced by the opinions and views of others.

An apparatus of relation, the visible human organism is an interposition between an interior something and the external world. It is to a conception of the existence of this interior something, not as an abstraction, "a dream of the shadow of smoke," but as a material entity, an organism subtle but real, that I am attempting to lead you. Where matter has ceased to exist, his research ended, the

experimental philosopher must halt; where it has ceased to be visible and tangible merely, he has reached the confines of a new region to be explored—a region that extends vastly further on the other side of its present boundary than on this.

Pardon here a brief digression that has for its object the display of a cautionary signal and the clearing away of some trifling impediments that otherwise might obstruct our path.

Language is but an accessory adjunct of thought, a medium of relation, essential to its form, not to its being; its origin is from the surroundings, associations and training of a man, not from himself; its limited range hampers thought that would soar beyond the scope of its receptive and expressive mediumship. Thought is an individual attribute; words are common property, free to the use or abuse of all; and many of them have acquired a fictitious value, an undue importance, from the sense and manner in which they are habitually used, and thus have become stumbling blocks in the way of the thinker.

‘Time,’ and words denoting its divisions, are prominent among the obstacles referred to. As applied to duration, the beginning and end of which we know, they have a positive value; beyond this, little or no significance. The lapse of time is marked by a succession of familiar events associated with observed astronomical periods. How thought struggles to free itself from its petty standards of comparison, to contemplate the infinitely great, or to subdivide its seconds in adaptation to the infinitely little!

There are many words of relative significance merely, to which a fixed and definitely limiting value has been attached. Such are, 'material,' 'immaterial,' 'natural,' 'supernatural.' Our conceptions of magnitude, of space, of direction, of distance, of speed, &c., are obscured by terms of which our common experiences and surroundings fix and limit the signification.

Words are but trifles light as air;  
Their only worth the sense they bear.

I have asserted that the brain, the visible tangible mass of fat and phosphorus to which we give that name, is in no sense an originator, a creator. If an interior material entity underlie the visible organism, acting upon, controlling, using it; the presumption is a fair one, that the exterior apparatus is adapted to the requirements of that which it serves to bring into relation with outward surroundings; and it is an equally fair presumption that the interior invisible form must antedate the exterior organs, which are adapted to, because moulded upon, developed by it.

In support of this view, the egg, beyond which the inception of individual existence has not been traced, offers some evidence. This *fons et origo*, this embodiment of mystery, the ovum, consists essentially of a vitellus (or yolk), and of an inclosing vitelline membrane. Upon the vitellus there is a rounded vesicle which has a nucleus, the macula germinativa. The yolk is an albuminoid substance with minute molecules and oleaginous granules



scattered through it. At a certain period of its development the egg comes in contact with a fluid by which it becomes fecundated. "By the influence of fecundation a new stimulus is imparted to its growth; \* \* \* and the fecundated egg starts upon a new and more extensive course of development, by which it is finally converted into the body of the young animal."

The yolk of the egg consists mainly of oleaginous and albuminous nutritive material; and it is safe to assert that its contained germ determines the result, the form and characteristics of the body into which the pabulum afforded will be converted. The earliest change to be noted in the fecundated developing ovum, is its segmentation or symmetrical division into two, then into four, equal parts, the process of reduplication continuing till the whole vitellus becomes composed of minute spherical bodies. The earliest stages of the process are marked by a crystalline character; in fact, that patient investigator and accomplished naturalist, Jeffries Wyman, discovered, during the early stages of embryonic growth, evidences of magnetic polarity. In device, as well as in material, nature is a shrewd economist. *Quoad hoc*, as far as they can be made subservient to the end in view, the processes and methods of inorganic structure are applied to organism, as are those of vegetable to animal life. Then the departure becomes a wide one, commensurate with the difference in result to be attained. The first movements in the yolk substance, its division into parts forming a symmetrical figure, are



analogous to, if not the same as, those observed in crystallization, and their imprint is legible even in the symmetries of matured forms. But the subsequent formative stages of living beings bear no relation whatever to the growth of crystals. To use an absurd abstraction, an element of individuality enters into the one and is wanting in the other. To illustrate: As far as closest scrutiny can reveal, these two eggs are precisely similar, but one of them will produce, we will say, a white bantam cock, the other a little black hen; their germs then possess individuality; and an energetic, self-asserting individuality it is. I prefer to do away with the abstraction and to say that they are individuals. Fecundation, it is asserted, gives an impulse to development, starts it on its way, which it follows in obedience to a law. It is my belief, that an impregnated ovum contains a material entity, an individual form, which bears a fixed relation to the matured product of that egg; that this germ unconsciously surrounds itself with such organs of relation as its nature demands; that the external form is moulded upon, that it is because of, an interior one, the requirements of which it is destined to fill. This is no strained point, no unwarrantable inference; it appeals to reason, while the term 'law of development,' in obedience to which atoms of matter are said to act, is a meaningless phrase. In the case of the egg, they do not act, but are acted upon, by a power coming in part from without, but controlled wholly from within. Could the contained germs of the two eggs be deftly interchanged before

incubation, it would be easy to predicate the result; atoms of matter under another control would accept a new law, and arrange themselves in obedience to its requirements.

Between positive and spiritual philosophers there is a dead-lock. To borrow an apt illustration from Dr. Carpenter: like those truculent knights of the fable, they maintain their positions from opposite sides of the same object. The shield is silver and it is golden. That a relation exists between mind and matter, is obvious; though the learned physiologist to whom I have just referred views as futile the attempt to establish it, "to bring them into the same category." He would seek rather to establish a relation between mind and force. Is not the association of matter with force sufficiently obvious, and of force with will, equally so? And what is volition but the executive attribute of mind?

Force is a unit. It has been called by names as numerous as are the varying circumstances under which it becomes appreciable; but whatever its origin, however transmitted, it is one and the same, each form that it assumes being capable of conversion into every other; it is transmissible, transferable, but unalterable and indestructible. In action force is motion, an abstract term the conception of which is inseparable from that of something moved. Of matter in motion, in intense motion, of matter a minimum in substance, combined with force a maximum in degree, the conception is definite. But of abstract disembodied

force we know and can know nothing; as moving, as permeating matter we have the only evidence of its existence. And of matter uncombined with force we have no knowledge whatever. The two, if two they be, in varying proportion are inseparably connected. It is through sublimated matter, intensified force, an ascending infinite series, that the material approaches the immaterial. One end of this chain can be grasped, and towards the other by its successive links reason may advance to the establishment even of a relation between mind and matter. As of force without matter, so of will unapplied, without object, we can form no definite idea. Our highest conception of abstract force is the executive mental impulse 'will.' Thus matter with force, force with will, will with mind are brought into relation.

The above statements and views are not wide departures, if they be such at all, from the positions of advanced science, from the stand-point of the day.

Be this as it may, they rest upon a substantial basis of truth; and upon no other line can research be prosecuted and the dead-lock broken.

Long ago have perished the aphorisms of scientific primers that called 'inertia' a property of matter, when no particle of it ever knew rest; that affirmed a straight line of motion to be natural, departure from it the result of a conflicting force; when there is no atom, no mass, no sphere but rotates and revolves. The circle, symbol of infinity, is not to be expressed in lines that have beginning and end;

and movement, to be continuous, must be rotary or orbital.

Equally untenable are the propositions, that matter is the originator of force, that force is the creator of matter. Indissolubly wedded they co-exist, force ever in action, matter never at rest.

It is not by limiting research to the visible, the tangible; nor by indulging in vague imaginings about an indefinite nothing that exists in an uncertain nowhere, that knowledge can be advanced. A barrier must be demolished or surmounted, and the combined forces of progressive science must occupy and cultivate the still shadowy realm of that no-man's land which the metaphysician now holds in unchallenged but unproductive sway. And this will be done. With what strides has science advanced within the past few decades, what ground has been gained, what positions fortified! What were recently but startlingly bold generalizations, an advance guard thrown upon disputed territory, have been sustained by an army of accepted facts. The 'imponderable elements' of our school-boy days, 'antagonistic forces,' have been resolved into one; harmony is restored where conflict raged; unity of design is seen through methods and processes, the seeming diversity of which is lost sight of in the harmoniousness of results attained. The embryonic life of animal organism in its entirety has been brought into view, the plan of its development has been unfolded, by master minds who have proclaimed and established Evolution. The facts of this

hypothesis, and the logical deductions therefrom which the science of to-day accepts, are absolutely in accord with the conceptions and views towards which I have endeavored to lead your minds. In regard to these facts, however, there is such gross and wide-spread misconception; the *reductio ad absurdum* has been so often re-iterated; the opprobrium of a monkey lineage has been so perseveringly held up to view, that I must define evolution, to doubt which to-day is to ignore the evidence of the senses and to discard logical induction therefrom.

The theory of evolution in brief, and shorn of all collateral details, asserts that organisms have originated not from many and repeated creative fiat, but by a long process of development from one or a few low types of organic life. It does not pretend to define life, to explain the conditions under which inorganic matter has taken up its onward march subject to the control of a force called 'vital.' But it does assert that it has discovered the lowest, simplest, most rudimentary forms in which animal or vegetable life exists; and that from such beginnings it has traced a chain of organisms, perpetually rising in complexity of form and importance of function, until it has thrown a bridge across the abyss from *monad* to *man*. There are breaks indeed in this bridge, but its piers have solid foundations and its arches nearly continuous spans. It is by no means a single series or chain of beings that is claimed to be established, but multiple ramifications of

lines of ascent from a few starting points, if not from a single primitive type.

So diverse yet so exquisitely adapted to results in view, so varied yet so harmonious in action, are the methods and processes of nature's cunning workmanship, that ever changing conditions of environment determine varieties of structure, increase and exaggerations of form and functions, and turn into an infinity of new channels an inherent susceptibility to variation latent in every organism.

"The fittest survive, the weakest go the wall." The *disjecta membra*, wrecks of whole orders of beings no longer fitted for changed environments, are found and offered in evidence. The development of the creative idea is illustrated and its plan made manifest by the lineal succession of progressing types formed upon the inadequate, the insufficient, that have become effete. The struggle for existence of an order, a race, is epitomized in that of an individual. In aggregate results, in duration of time beyond computation, the importance of the most trifling favoring circumstance is exaggerated and augmented. Individuals most highly favored transmit their peculiarities, they grow stronger and increase, while the less fit, the inapt, die and leave no mark. Nay, more: the life-history of every individual of the higher forms is an epitome of the history of successive stages of existence of lower types.

The human egg, at first absolutely indistinguishable from that of many lower animals, in fact being all that some of the lowest ever become, passes through successive stages

in which it bears resemblance to higher and higher creatures, as the fish—the reptile—the bird—the mammal, finally asserting itself in the human being. And at one of the crises of its career which we call ‘birth,’ it throws off a bodily organ no longer essential to its life of relation in the maternal womb; and at that other crisis which we call ‘death,’ that which is cast aside is but another organism of relation that has become superfluous, a non-essential to new environments.

To briefly recapitulate :

The origin of species is not due to special, successive creative acts, but to gradual evolutions of the higher from lower types of organism.

Complexity of structure and specialization of function indicate ‘high’ as opposed to ‘low’ forms.

Species, so-called, bear to each other the relation of offspring to parent, as do individuals.

Species have an inherent plasticity or adaptability to varying conditions of environment by which is directed their modification into other species.

Progress in development is not in one single uninterrupted line from low to high, but rather in numberless diverging paths. Nothing demands the assumption that the ape is an ancestor of man; both, however, are referable to antecedent types.

In the struggle for existence the most trivial favoring circumstances result by natural selection in the survival of the fittest.



Certain lines of development are carried out to their utmost extent, but the highest of these are not necessarily linked with others; they may become a 'closed type.'

A species that has accomplished its maximum of development in a given direction, dies from incompatible changes in its condition of environment; its descendants, however, live as a modification of the parent stock adapted to the changed surroundings. Thus palaeontological records afford numerous instances of defunct organisms, whose modified progeny exists to-day, as the solid-hoofed horse, the lineal descendant from many-toed ancestors.

Science utterly repudiates any limit of time in these processes.

This rapid and very imperfect summary of some of the salient points of the theory of evolution must suffice for our present purposes, and for the basis of one broad generalization, to impress one momentous lesson. Change follows change, but to advance there is no limit. All nature proclaims evolution; in other words, progress that is continuous; and he is rash or blind indeed, who dares assert that we have attained an ultimate, in face of nature's teaching that unfolds to us the endless possibilities of progression—a birth-right, not a gift. Man is no interpolation, no abnormal incongruous form, but a derivative from antecedents, harmoniously evolved in accordance with a scheme, the sublime grandeur of which reflects upon him such dignity as he has, promises him such as he may attain. In the light of evolution, the questions—



‘Whither are we bound’—‘What is our destiny?’ have a far deeper significance, a more vital interest, than the queries ‘Whence come we’—‘What is our origin?’ (which in comparison are trivial and insignificant.)

Antagonism to these views, on the ground that his moral and intellectual characteristics exclude man from the category in which his structural affinities place him, is as irrational as it is egotistical. Man is, what he is—endowed with reason, with conscience, but not by these attributes isolated, cut off from his prototypes.

They are prejudiced or but very superficial observers who fail to recognize in animals inferior to man the existence both of reason and conscience. Evolution throws man down from a self-erected pedestal, from a false position he has assumed, but abates not one jot of his true dignity, of his manifest superiority to lower orders of beings. Man’s nobility is based, not on a patent that has come down to him, but on one he has risen to attain.

Surely as individual man is developed from an ovum and passes through successive stages of embryonic and infant life; just so surely did the species spring from a germ and pass through successive phases of progressive development. Is the origin of the species less dignified than that of individual man? Is it essentially more difficult to fix the epoch of the dawning of reason and of conscience among man’s prototypes, than to discern at what precise time reason asserts itself and conscience becomes manifest in the infant? In truth, all attempts to establish such lines

of demarcation are futile, for in nature's processes, as in her organic mechanism, abrupt transitions do not occur, "all things merge one into another."

Conscience discriminates between individual conceptions of good and evil, of right and wrong, and reason indicates a train of sequences that flows from each in divergent paths. The essentially finite, human ideas of virtue and recompense, of crime and penalty, involving that of judgment, are derived from the experiences of family, social and political relations. In nature result flows from cause without intervention. Causation is all-pervading, harmonious, uniform,—result predicable with unerring exactness, if knowledge be absolute.

Evolution has taught that nature, progressive though she be in aggregate results and ever careful of the preservation of species, is nevertheless absolutely indifferent to the fate of individuals. Advance in organism is by waves of species. What value then have the drops that sparkle for an instant on their breaking crests, then fade from sight? The swelling tide rolls on, sweeping into oblivion the beautiful, the bright, the good,—to evolve that which is fairer, lovelier, nobler still,—in turn but to perish, tossed aside as in idle sport. Evolution has taught this lesson, but only from a superficial view, from an inadequate comprehension of its scope. If I can draw from it no better one, then am I no evolutionist. *Species*, advancing always through progressive types of form: Whither are they tending? *Individuals*, springing from the lowest, hum-

blest germ of life, ever changing, ever rising still: What is their destiny? The parallelism is perfect. Reasoning from the known to the unknown, from the past to the future, the continued progressive existence of individuals is as legitimate an induction as is that of species. Both are approaching, never to reach, a goal. The waves of organism shall roll on through cycles of ages, but not the least of the drops that dance and gleam in the light of the present shall perish, shall cease to move on to accomplish the design of its being; for evolution is unceasing, and nature knows not waste. Death is but a crisis in life, and that which is thrown aside in dying but a placental apparatus of relation to past surroundings. And this is the lesson I accept.

Evolution is the constant, unvarying method of thought. Of thought, that finds expression in practical results, embodiment in material objects, the successive stages are marked by creations more and more complex, of ever increasing beauty or growing utility. Aggregated results, like individual achievements, are evolved from antecedents, embodied and conserved. The work of highest art, the canvas that reflects a page of history, glows with forms of ideal beauty, or echoes the cadence of a song, may be traced by its antetypes through the developing, the embryonic, to the very germinal, stage of design. But yesterday from the muddy bank of a turbid stream a naked savage launched his hollowed log and caught the propelling breeze on an outstretched hide. Behold the leviathan of

to-day that battles with the elements, proudly spurning the hungry waves, defying the fury of the blast! Its ponderous bulk driven on by a power all its own, its thousand arms moving responsive to a single will! It is but an embodiment of human thought in a single line of ascent from the first germ that began so humbly an unending voyage.

It is the sublime comprehensiveness of evolution, that renders it comprehensible. No more worthy offering has been laid by science upon the shrine of truth; not one that more fully brings into view harmony in method, unity in design; not one that is more illustrative of the dignity, of the comprehensive majesty of the plan of creation. Yet no deduction from observed facts has been more violently assailed; not one has been more vigorously contested; not one has infused more acrimony into the conflict, so-called, of science and religion, as if antagonism there could be, between truth and that which binds men to it. There are points of difference indeed, between those who read and interpret more or less correctly facts of observation, and those who read and interpret more or less intelligently written words of authority; but honest seekers will find common ground to stand upon. Science the interpreter, religion the worshipper, will advance together; the one elevating our thoughts to loftier, purer conceptions; the other bowing our heads in humbler, wiser adoration of truth—the eternal.

It is not religion that can be endangered by the prosecu-

tion of scientific research ; but only superstructures, systems of belief erected under cover of its name, with no substantial basis of truth.

A quaint old picture, seen many years ago, made a lasting impression on my mind. It was a biblical illustration. A young man lay prostrate seemingly in deep sleep ; an old man armed with a huge knife, but with an expression of mild benignity on his countenance, bent over him—God about to cut the rib from Adam with which to make him a wife. It was not intended as a caricature to provoke a smile, but simply to commemorate a notable incident in the early history of our race. Such a picture is out of date now, but a similar God is largely worshipped—an exaggerated man, eccentric and irascible, who, with the assistance of an antagonistic and highly objectionable subordinate, through most devious ways governs and sustains his realm.

Such estimates and views as I have mildly caricatured, are *not* altogether out of date now ; banished by the light of science, they will be replaced by higher conceptions, more elevating thoughts. There are hosts of moral teachers to-day, earnest and true, who recognize no antagonism between science and religion but rather an alliance, no conflict but rather mutual dependence. For sincere convictions, for honest effort in what pertains to man's highest interests, my respect and admiration are unbounded. But the '*Deus ex machina*,' the puppet, that charlatans have made to fill the roles of harlequin and fiend, the man-made God, can have no place in the hearts of those whose

thoughts have been elevated to purer conceptions, to whom the book of revelation,—nature,—has been opened. All may read and none can doubt its source; for the ‘imprimatur’ of the Author is stamped on every page.

“*Divinus est qui nos creavit artifex.*”

“The hand that made us is divine!”

A class of observers and reasoners whose influence is specially adverse to the advancement of knowledge, are materialists properly so-called, for whom the visible, ponderable or tangible alone exists; to whom matter which they can divide, subdivide and analyze, is an ultimate, a God. Their field of reinforced vision has a limit fixed and determinate, beyond which nothing is; their auditory apparatus can appreciate a certain number of vibrations per second, but higher notes have no existence; unheard, they cannot be. In the view of the materialist, consciousness, thought, volition are excreted by a form of matter, the material products of the decomposition of which become a gauge of the vigor and extent of intellectual exertion made, of the depth and intensity of emotion felt. Such a relation exists, but it has no more significance as bearing upon the origin of thought and feeling, than has the detritus of any piece of mechanism, relation to the source of power applied, though it be an index to the amount of work accomplished.

It has been my endeavor to show that the visible human body is strictly an apparatus of relation, that it is an out-

growth from, is developed by, but is in no sense the originator of, that which controls and moves it. Further than this, I have attempted to lead you to a conception of the existence of an interior organism corresponding with, adapted to, but separable from, the external form; an intermediate between the nervous system with the material of which it is incorporated, and the 'moi' into which it merges, to which it is more closely allied, more firmly bound than to the outer body, its non-essential investiture. This subtle organism it is, which, partaking of the nature of both, *in life* establishes a relation between the two, but which *in death*, withdrawn from the form that perishes, becomes the exterior envelope, the 'peresprit,' the body of the soul.

To approach from another direction, from the stand-point of biology, a fundamental truth that is the basis of all religious teaching, has been my design. It is a truth accepted as a revelation of inspiration, but is less a reality to many than if it were reached by another method. Do I believe in inspiration? Most assuredly I do; not as pertaining to the remote past alone, nor as confined to a chosen few. I believe in an exaltation of perception, a realization of truth that comes not from *within* by usual processes of thought, but rather like an illumination from *without* in response to aspiration. There are moments in the life of every thinking man when a clue that is eagerly sought flutters almost within his grasp, when a gleam of light, of knowledge, of truth flashes for an instant into view, then



fades from his sight; transient, imperfect though it be, this is inspiration.

Wherever found, whenever heard, inspired words have a ring that no base metal can counterfeit, a significance that research, ages after their utterance, may elucidate, but which cannot be re-conveyed in expression so fitting. Such words are these:

“Or ever the silver cord be loosed, or the golden bowl be broken, or the pitcher be broken at the fountain, or the wheel broken at the cistern.”

Not sundered, but loosed is the silver cord from the golden bowl,—from the pitcher, the wheel, broken apparatus of relation to the fountain, the cistern, sources of a supply no longer needed. The silver cord, intact, performs its office still, protecting, serving, adapting to new surroundings that which has passed to another phase of life.

What is death? Do its dark portals close upon us forever, or but cast a fleeting shadow upon an ever ascending path? To the solution of this problem of deepest significance, I have endeavored to contribute. How unsatisfactory, how far short of success, has been my individual effort, I am well aware. It has been honest, as my conviction is strong, that the reality of another phase of continued individual existence will yet become an accepted deduction of science. The humblest effort, one that but points to such an end, cannot be all in vain.



There are those who assert that the solution of the problem has been experimentally reached, that death is but a transition, individual life uninterrupted, immortality proved. Observed phenomena, asserted facts of an exceptional character, termed supernatural because they are not in accord with the usual or familiar course of events, are the assumptions from which are drawn the inferences of the spiritist. These observations and experiences, which have brought conviction to many minds, have not as yet been admitted in experimental philosophy as data affording a basis for induction. By the vast majority of the professed custodians of science, his assumed facts are denied, and the deductions of the spiritist pass for naught. As a rule, scientists have not investigated these asserted facts. They deny the reality of occurrences and experiences which are not in harmony with the diligently observed, ordinary course of events; and the assertors of such facts are held by them in the same contempt, as would be he who should claim the discovery of a planet with an inharmonious orbit, by which the established order of the heavens would be endangered.

The conclusions of the spiritists as to the continuance of individual life are logical deductions from their asserted facts. Startlingly unusual, irregularly recurring phenomena have been observed and corroborated by many ordinarily credible witnesses; collated, compared, built upon, they have been made to support a superstructure of

belief that will totter and fall "like the baseless fabric of a dream," if its foundation be false.

So extraordinary, so exceptional are the phenomena referred to, so incongruous and unaccountable are they from the present stand-point of science, that they are not deemed worthy of serious attention even. In such questionable shape they come, so obscured by inane platitudes, so contorted by conflicting testimony, so disguised by chicanery and falsehood, so encumbered by all that is vile in human nature; that the whole business of spiritualism (and it has become a trade) is suggestive of little but of knavery on one side, credulity on the other.

Thus far, royal societies and academies, the body politic of science, have made no attempts, or such only as have been mere mockeries, with purely negative results, to sift the evidence, to investigate the facts upon which the theory of spiritualism is based. They have declined to deal with phenomena which are presented in a form so objectionable, so repulsive.

Nevertheless, among investigators who have accepted and founded hypotheses upon these asserted facts of observation and experiment, are men of high attainments and culture, philosophers, many of them of the positive school, who have gained distinction in other widely different fields of research, who have earned a right to be heard, the power to command attention. The evidence of such men is not lightly to be set aside, nor can the

result of their labors be ignored; and science sooner or later must meet the issue.

By what means and in what manner have the facts claimed by spiritists been disclosed, and of what nature are they? I must very briefly explain and summarize. Just as exceptional, abnormal forms, accidental departures from a type of structure, are instructive to the naturalist; and as irregularities of function, diseases and deformities, furnish valuable data to the physiologist; so do peculiarities in the organization of certain individuals throw light upon the nature and manifestations of the phenomena in question.

A perfect reciprocal adaptation of the more solid exterior body and the '*corps fluidique*,' as it is best called, each being adequate to the requirements of the other, no less and no more, may be regarded as normal, as a closed circuit. There are persons in whom this equipoise between the two elements does not exist; to continue in the phraseology of electricity, there are positives and negatives in their relation to what has been termed 'psychic force,' but what is the outward projection of the material of the fluid body.

It is in the presence of such abnormally constituted persons, termed mediums, sometimes sensitives, that the varied phenonema of spiritual manifestations are observed.

Though it be not an accepted fact of science, it is affirmed and very generally credited, that a controlling influence over the consciousness, perceptions and wills of certain

individuals, can be exerted, under conditions that preclude the possibility of communication through the ordinary avenues of sense. Few have not seen experiments termed mesmeric, that go far to establish the truth of this assertion. Its admission, however, involves the recognition of the essential feature of the spiritist's claim. The mesmerizer in the flesh bears the same relation to his subject, that the assumed spirit or disembodied magnetizer does to the medium. The existence of a '*corps fluidique*' is an essential to the production of the results observed in both cases; it is to be inferred from phenomena of the one class as well as from those of the other; a relation is established between the living that is not necessarily interrupted by the death of one or of both the individuals, who are capable of being brought into communication by that which exists independently of their visible organisms.

Spirits so-called, ordinarily invisible, but nevertheless material potencies, by their power of controlling the organisms of their peculiarly constituted mediums, are assumed to be the active agents in the production of the remarkable effects described as 'spiritual manifestations'. The physical properties of matter are said to be changed, to suit the purposes of these sometimes unwelcome visitors, to the temporary requirements of whom mediums are supposed to become subservient, talking, writing, in short acting in all respects, in obedience to a will that is not their own. Even more, the weird

guests are asserted to employ the 'psychic force' developed, to array themselves in visible form and to speak and act in their temporary environment. This is a most meagre summary of the asserted facts of spiritualism; there are few, however, not more or less familiar with a subject, the records of which are so abundant and accessible.

There is an imposing array of illustrious names of representative men in every department of science who have admitted some such facts and have accepted more or less fully the deductions of the spiritists. Among these are academicians who bear the insignia of an intellectual rank not lightly won. From this investigation, as I have said, the scientific body has stood aloof, but pioneers have leaped the barrier of retarding conservatism and have assumed positions outside its limits. To quote individual authorities, to describe even the nature of experiments that have led to their conclusions, I have neither space nor inclination. Certain facts which are in accord with results to which I have closely approximated independently of them, I am willing to accept on the authority of well-known biologists and physicists, corroborated as they are by a weight of concurrent evidence that is overwhelming. These facts establish the existence of a more sublimated interior organism which ordinarily fulfils a function of relation within the visible body, but which exceptionally is capable of acting beyond it, as it is also capable, under peculiar conditions, of being

acted upon by the will of another. In *life* partially separable from the rest of the body, in *death* totally separated from it, this intervention is still a material organism of relation through which communication can be maintained, and individuality asserted.

To the varied and extraordinary phenomena which have been observed under such exceptional circumstances, the terms 'supernatural,' 'miraculous,' have been applied. These words may well be spared from our vocabulary, for they serve but to mark an ever-changing boundary line between the known and the unknown. The simple word 'natural' covers all that is, and in nature no one thing is more miraculous than any other.

In such of the facts referred to, as have been disclosed by experimental research and verified by corroborative testimony, as convincing as that upon which any belief rests, I see absolutely nothing that might not be predicated by a priori reasoning, no result that might not be arrived at by legitimate induction. With the vast superstructures that have been erected upon the basis of these facts, the present inquiry has no concern.

Modern spiritualism is but a sudden expansion, an eruption of ideas consequent upon fresh developments in new phases, of what is older than history, coeval with man. The bible, the classics, the oldest records clearly point to the occurrence of phenomena similar to those that are the marvel of to-day. In every epoch methods of invocation were understood and practiced; the black art, once a secret

of the few, unfortunately now has become a plaything of the many.

Mediumship is an abnormal condition of individuals. In a certain sense modern spiritualism has become an epidemic disease of society. Alas, poor weak human nature ! But an echo of footfalls on the boundary of another world has been heard, and all is gained ! Superstition and credulity have been turned into new channels ; the mysterious, the supernatural, the demoniac have filled men's minds, perverting their perceptions, unsettling their reason ; blind leaders of the blind, their morbid and vain imaginings clothed in a jargon indescribable as incomprehensible, charlatans and adventurers, are playing upon and preying upon the over-wrought imaginations of enthusiasts and dupes. It is time that science assumed the mastery of the situation and brought its saving conservatism to bear where it is so much needed.

Of the high philosophy inculcated, the pure conceptions and exalted views conveyed, the noble incentives offered, by a system of belief that has been based upon, I prefer to say that has been illustrated by, the facts of spiritism, I have no occasion to speak. In these facts I find simply a confirmation of what does not depend on them for proof : That it is the '*peresprit*,' '*corps fluidique*,' body of the soul, the existence of which within the organism is *life*, the withdrawal of which is *death*. The man is not the visible object to which we give the name ; he antedates it, is superior to it and independent of it. He has an organism



by and through which he can act when the external body ceases to be useful or necessary, a form that bears the likeness of himself, that brings him into relation with new surroundings in what is but another phase of life, as an individual capable of self-assertion still, and not a vague, meaningless non-entity, an impotent abstraction.

Let us retrace our steps, to glance once more at the human skeleton, our point of departure. What a grotesque presentment; yet the form of man is there, rudely outlined in the frame-work that supported him! Now clothe these angular bones with the flesh they wore, the muscular apparatus in its entirety; with the rounded lines, the contour, restored, it is a very man, with the semblance of expression even! But very much is yet wanting, and the effigy falls far short of an ideal of manly beauty. Away with all this! Replace it now by every silver thread and pearly expanse of nerve tissue, with the quivering sheen of life upon it. How notably is the resemblance increased! What grace of form,—what beauty of surface is revealed!

But another step, one effort more—

“—————Soul of Ianthe!

Awake! Arise!”

Vision of loveliness—Eidolon! The poet's magic touch alone can paint in words such beauty:

“Sudden arose

Ianthe's soul; it stood




All beautiful in naked purity,  
The perfect semblance of its bodily frame.  
Instinct with inexpressible beauty and grace,  
Each stain of earthliness  
Had passed away, it re-assumed  
Its native dignity, and stood  
Immortal amid ruin."

"—————'twas a sight  
Of wonder to behold the body and soul,  
The self same lineaments, the same  
Marks of identity were there ;  
Yet oh how different !—————"

In exquisite adaptation to reciprocal necessities, the parts of living organisms merge one into another, that which establishes a relation between two, partaking of the nature of both. Personality is guarded, relations subjective and objective are ever maintained, by an organism, a form akin to that by which in *life* it was environed, but from which in *death* it is set free. Of the two—

"—————one aspires to heaven,  
Pants for its sempiternal heritage,  
And ever changing, ever rising still,  
Wantons in endless being.  
The other, for a time the unwilling sport  
Of circumstance and passion, struggles on ;  
Fleets through its sad duration rapidly ;  
Then like a useless and worn out machine,  
Rots, perishes, and passes."











\* \* \* The substance of this paper was written in 1876. In November, 1877, it was thrown into its present form, and afterwards read several times in private circles.

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